Management of Iron Deficiency Anemia in Home Parenteral Nutrition Patients; Challenges and Opportunities for Improvement

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INTRODUCTION

Iron deficiency anemia (IDA) is a common occurrence in patient populations that suffer from chronic diseases requiring home infusion therapy. Factors contributing to IDA may include low/no intake of dietary iron, low/no gastrointestinal absorption of dietary iron, supra-normal blood loss, and/or chronic inflammatory processes which can result in a 'block' of the body's iron stored in the liver. The risk of IDA is particularly high in the home parenteral nutrition (HPN) population, where prevalence rates in the range of 36-55% have been reported [i,ii], though data on the condition are limited. There is not a widely accepted standard of care for management of IDA in home infusion patients. Our hypothesis was that there are inconsistencies in the treatment of IDA, specifically in the long-term HPN population. We conducted a research survey to assess the current standard of care for the diagnosis and treatment of IDA in the HPN patient population in order to identify opportunities for improvement.

OBJECTIVES

The purpose of the project was to identify opportunities for improvement related to the approach for management of IDA in HPN patients. We set out to better understand current diagnosis, treatment and practice patterns from the health care professional (HCP) and patient perspectives. Additionally, we sought feedback on the potential acceptance of a novel IDA therapy designed for home infusion which is currently in development.

METHODS

We developed a survey in partnership with professional organizations and patient advocacy groups. The target audience was physicians and dietitians (N=51) who care for HPN patients, pharmacists (N=76) who are HPN service providers, and long-term (>90 days) HPN patients (N=75). A total of 202 respondents completed a 15- minute on-line survey.

DISCLOSURES

Chole, T: Employee, Rockwell Medical, Inc.
Anthony P: Nothing to disclose
DeLegge, M: Consultant, Rockwell Medical, Inc.
Hoffman, M: Employee, Rockwell Medical, Inc.
Simpson, M: Nothing to disclose

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RESULTS

Results confirmed a lack of consistency in the diagnosis, treatment and management of IDA in HPN patients. There was no clear consensus among HCP's as to the lower level of Hb that should trigger therapeutic intervention for IDA. (Fig 1).

For instance, 33% of HCP respondents intervene when Hb <10 g/dL, while nearly a quarter of those surveyed wait until levels are <8 g/dL before considering treatment. Most reported that patients are monitored regularly for anemia but were split when asked if treatment intervention is proactive (Fig 2). HCP therapeutic choices are also highly variable and include oral iron (29%), IV iron requiring a visit to an outpatient infusion center (26%) or IV iron as a home infusion (24%).

Figure 1.

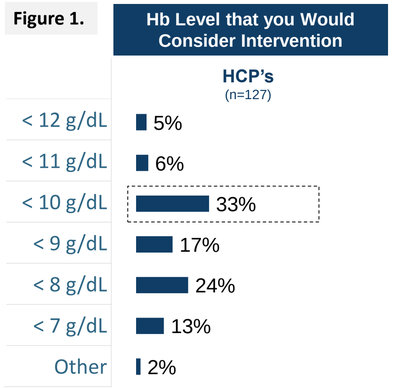


Figure 2.

HPN patients are monitored regularly for anemia however,

4 of 10 pharmacists and **6 of 10** physicians say treatment intervention is not proactive.

HCP's report that approximately 36% of their HPN patients are diagnosed with IDA, and 31% are receiving treatment. Traditional IV iron is commonly recommended, but there is some concern about risk of severe hypersensitivity reactions, particularly among pharmacists (22%). HCP's also cite other reasons for caution including concerns with tolerability or potential issues related to incompatibility of IV iron with PN solutions.

Awareness of IDA among HPN patients was very high, with 99% of HPN patients reporting some awareness of the disease. 92% of patients had discussed IDA with their doctor and 89% said they had been diagnosed with IDA at some point. Common treatment interventions as reported by patients were IV iron administered at an outpatient infusion center or a hospital (71%) , transfusion of packed red blood cells (25%) or oral iron (24%) (Fig 3).

Figure 3.

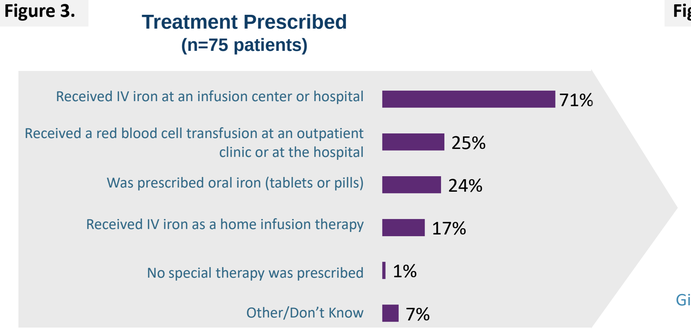
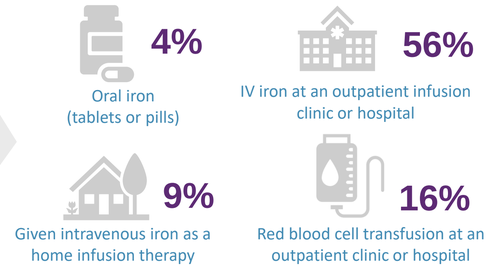


Figure 4.



1/3 of patients treated for IDA said treatments were convenient, while 24% reported the opposite. Nearly half of patients reported experiencing side effects, and 13% of patients discontinued treatment due to adverse effects. Treatment success rates varied from the patient perspective; only 56% said their IDA was corrected after receiving IV iron in a clinic and reported success of oral iron and other therapies was very low. (Fig 4).

When presented with the concept of a new IDA therapy which could be administered via slow IV infusion at home and potentially ad-mixed with the daily PN solution, a majority of stakeholders responded favorably. Patients indicated they would prefer such an option to visiting an outpatient infusion center. HCP's indicated they would consider earlier treatment intervention for IDA given the new treatment option. The majority of pharmacists felt the proposed product would be a welcome enhancement to their service offering.

CONCLUSIONS

IDA is a common condition among patients receiving long-term HPN. Inconsistent treatment patterns for IDA and limitations with current therapies were confirmed among HCP's and HPN patients. Patients who have been treated for IDA reported issues with efficacy and tolerability, and most expressed a preference for an at-home infusion versus a visit to an outpatient infusion center.

DISCUSSION

The results of our survey demonstrate a need for improvement in the standard of care for treatment of IDA in this patient population. More study is needed to fully understand the extent and magnitude of the problem of IDA among long-term home infusion patients and the potential shortcomings of the current disease management approach. The development of evidence supported clinical practice guidelines could be beneficial, and the availability of new anemia drugs suitable for home infusion may also increase the likelihood of successful, timely and consistent therapeutic intervention.

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